

No. 709,743.

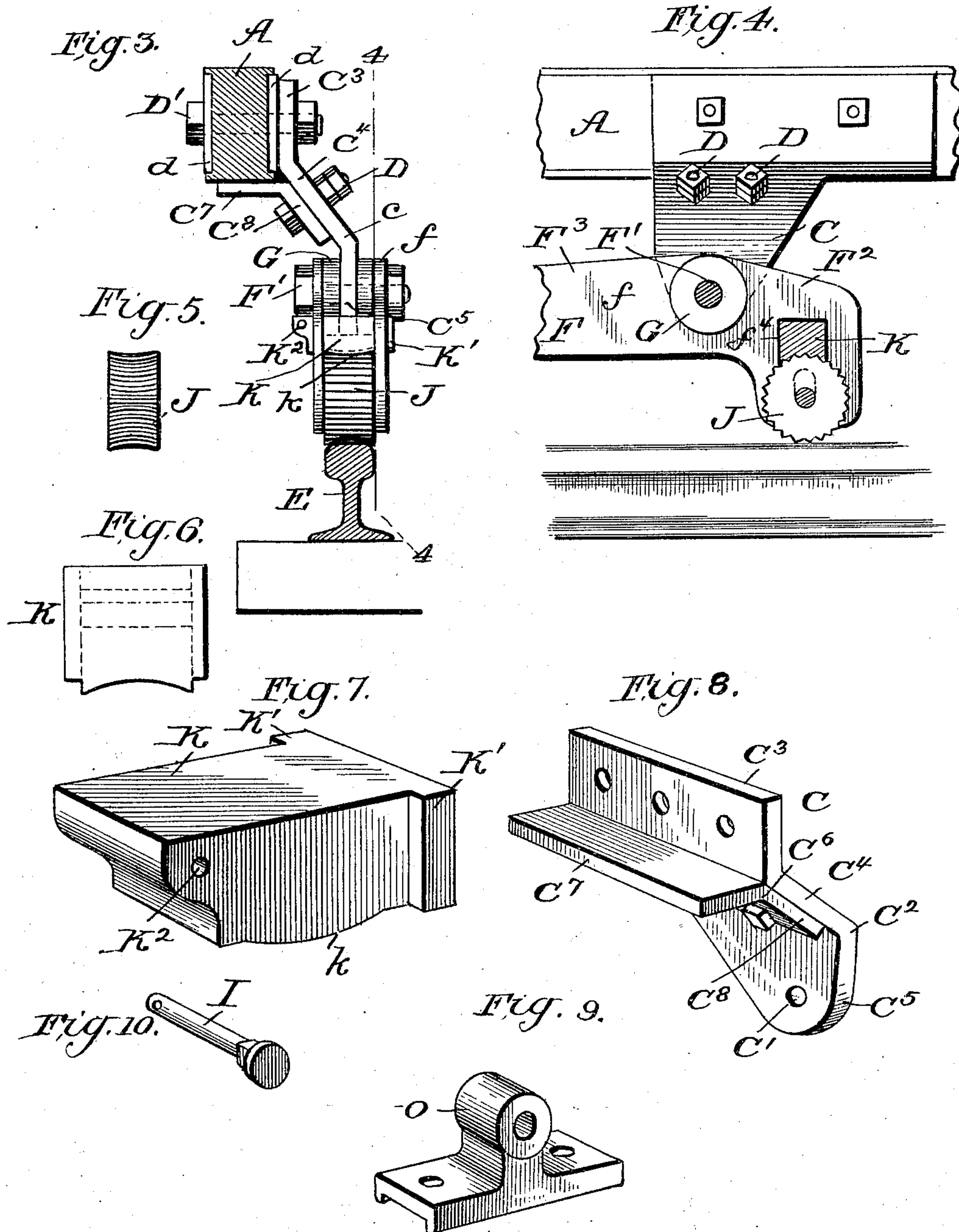
Patented Sept. 23, 1902.

T. S. BUTLER.
TRACK BRAKE.

(Application filed Apr. 15, 1902.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Jo. A. Ryan
Perry B. Furpin.

INVENTOR

Thomas S. Butler.

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS SHANON BUTLER, OF VANDERGRIFT, PENNSYLVANIA.

TRACK-BRAKE.

SPECIFICATION forming part of Letters Patent No. 709,743, dated September 23, 1902.

Application filed April 15, 1902. Serial No. 102,947. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SHANON BUTLER, a citizen of the United States, residing at Vandergrift, in the county of Westmoreland and State of Pennsylvania, have made certain new and useful Improvements in Track-Brakes, of which the following is a specification.

My invention is an improvement in car-brakes, especially in that class of such brakes known as "track-brakes," wherein the braking device is applied to the railroad-rails; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view of the improvements. Fig. 2 is a side elevation thereof. Fig. 3 is a detail cross-section on about line 3 3 of Fig. 2. Fig. 4 is a detail section on about line 4 4 of Fig. 3. Fig. 5 is a detail edge view of the braking-wheel. Fig. 6 is an elevation of the inner end of the bearing-block. Fig. 7 is a detail perspective view of the bearing-block. Fig. 8 is a detail perspective view of one of the brackets which carry the brake-levers. Fig. 9 is a detail perspective view of one of the boxes for the main shaft, and Fig. 10 is a detail perspective view of the shaft of the braking-wheel.

My invention is shown as applied to the beams A of the car, which beams may preferably be the side beams of the trucks. To the beam A, between the car-wheels B, I secure the brackets C, which may be alike, except that they are rights and lefts, and one of which is shown in detail in Fig. 8. These brackets are arranged relatively near to the wheels B and provide at C' pivotal supports for the brake-levers, presently described. Each bracket C is formed with a main section C², having at its upper edge upright wing C³ to lap against the inner side of the beam A, below said wing C³ an inwardly-inclining wing C⁴, and at the inner lower end of the wing C⁴ a depending wing C⁵, to which the brake-levers are pivoted, as shown in Figs. 3 and 4. The bracket has also a section C⁶, separate from the section C² and provided with an upper horizontal wing C⁷ to lap beneath the beam A and an inclined wing C⁸ fitting against the outer side of the inclined

wing C⁴ of the section C² and secured thereto by the bolts D, as shown in Figs. 3 and 4. The wing C³ of the bracket C is secured by bolts D' to the beam A, bracing-plates d being preferably lapped on opposite sides of the said beam A, as best shown in Fig. 3. By the described construction I furnish a spring bearing-support for the brake-levers and arrange the same in from the beam A and directly over the rail E, as shown in Figs. 1 and 3.

The brake-levers F may be alike and are pivoted by the bolts F' to the brackets C, as shown in Fig. 2, to provide the short outer arms F² and the long inner arms F³, the ends of the arms F³ extending close together, as shown in Fig. 2, so they can both be operated on by the lifting devices presently described. By preference I construct the levers F each with the separate side plates f, which lap on opposite sides of the bracket C and are preferably spaced apart therefrom by the washers G, the bolts F' passing through the side plates f and the washers G and bracket C, as will be understood from Figs. 3 and 4. The end arms of the levers may be supplied with weights H to hold said arms normally depressed, as desired, and these weights H may be readily secured by the bolts h, so they can be changed whenever desired. The short arms F² of the levers F have depending portions f², slotted at f³ to receive the pivots I of the brake-wheels J, the arms F² being also provided above the slots f³ with openings f⁴, in which are fitted and held the bearing-blocks K. (Shown in Figs. 6 and 7.) These bearing-blocks K overlie the brake-wheels J and are pressed against by the latter in the setting of the brakes. At their inner ends the blocks K are provided with the side wings or lugs K', which overlap the inner plate f of the lever, and the outer ends of the blocks K project beyond the outer plate f of the lever and are perforated at K² to receive a cutter-pin K³, as will be understood from Figs. 1 and 2. The brake-wheel J has its pin or shaft I slidable vertically in the slots f³, so when the lever F is rocked to bring the brake-wheel down upon the rail the bearing-block will be forced upon the upper edge of the brake-wheel and the latter will be caused to operate between the rail and the bearing-

block in such manner as to efficiently brake the car. The brake-wheel is toothed or ribbed, as shown, on its periphery and also has its periphery curved or concave, and the bearing-block is curved to fit the wheel, as shown at *k* in Fig. 7.

In operating the levers the inner adjacent ends of each pair are connected by chains *L* with a drum *M* on a shaft *N*, the shaft being journaled in bearings *O*, mounted on the beams *A*, and such shaft being provided with a pulley *N'*, from which a chain *N²* leads to any suitable form of operating device, so the chain *N²* can be drawn upon to turn the pulley *N'*, and so turn the drum *M* as to lift the inner adjacent ends of the levers *F*, and thus force the outer short arms of said levers downwardly to press the brake-wheels against the rails and so operate to brake the car.

By the described construction the brakes can be applied with great force whenever an emergency occurs requiring the sudden stopping of the train, and the wearing parts *J* and *K* can be renewed at a slight expense.

It will be understood in practice the brake-wheels *J* normally ride clear of the rails and can be brought down upon the rails and to operate between the same and the bearing-blocks by a slight movement of the inner adjacent ends of the long arms of the levers *F*, as before described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a brake mechanism substantially as described, of the supporting-beams, the brackets secured thereto, and spaced apart and having at their upper ends the upright and horizontal wings lapping alongside the beam and the intermediate inwardly-inclined wings and the depending wings at the inner lower ends of the inclined wings, the levers comprising side plates pivoted between their ends to the said depending wings of the brackets, and provided between the side plates near their inner adjacent ends with the weight-blocks and between their side plates near their outer ends with the brake-wheel movable vertically and with the bearing-blocks operating above said wheels, the shaft mounted in bearings on the beam, between the opposite brackets thereof, the drum on said shaft, connections between said drum and the inner adjacent ends of the brake-levers and means whereby the drum may be turned, substantially as set forth.

2. The combination in a brake mechanism with a supporting-beam, of the brackets se-

cured at their upper ends to the supporting-beams and inclining inwardly below the said beams, the brake-levers pivoted between their ends to the lower ends of the said brackets and provided at their outer ends with the brake-wheels, and lifting means connected with the inner adjacent ends of the brake-levers, substantially as set forth.

3. The combination in a brake mechanism with a suitable support, of the lever pivoted thereto, and composed of side plates, a weight-block between the side plates of said lever on the long arm of said lever, and the brake-wheel and bearing-block supported between the side plates of the short arm of the lever, and means whereby the lever may be operated, substantially as set forth.

4. A brake substantially as described, comprising the lever, the brake-wheel movable in the lever and arranged to bear upon the track, and a bearing-block supported by the lever and arranged to act upon the opposite side of the wheel from the track, substantially as set forth.

5. The combination of the brake-lever provided with a lateral opening for the bearing-block, the bearing-block fitted in said opening, and the brake-wheel movable in the brake-lever below the bearing-block and toward and from the same, substantially as set forth.

6. The combination of the brake-lever having the opposite side plates, and provided therein with the slots for the shaft of the brake-wheel, and above said slots with the openings for the bearing-block, the bearing-block fitted and held in said openings, and the wheel below said bearing-block and having its shaft movable in the slots of the side plates, substantially as set forth.

7. The combination with the beam, of the levers below the same and pivoted near their outer ends, the brake-wheels and bearing-blocks in the outer ends of the said levers, and lifting devices connected with the inner ends of the levers, substantially as set forth.

8. In a brake mechanism, the combination of the bracket, the lever having side plates extending on opposite sides of and pivoted to the bracket, the brake-wheel and bearing-block between the said plates on one side of the bracket, and the lifting device connected with the lever on the opposite side of the bracket, substantially as set forth.

THOMAS SHANON BUTLER.

Witnesses:

THOS. A. NICODEMUS,
ROBT. W. SMITH.